SCHEDULE
2014 MIC MEETING at the University of Alabama at Birmingham

Wednesday, May 21, 2014

12:00 – 2:00 pm Arrivals, Registration and Lunch.

2:00 - 2:15 pm Welcome and Introduction: Anath Shalev and Meredith Preuss (hosts)

2:15 - 3:30 pm ORAL SESSION-1 – Developing, Regenerating & Growing New Islets – in vivo or in test tubo
(Moderator: Carmella Evans-Molina)

2:15 – 2:30 pm Corentin Cras-Méneur - Active Notch signaling controls the maintenance of the fate of the Ngn3 Progenitors through RBP-Jkappa in the developing pancreas
2:30 – 2:45 pm Iljana Gaffar - A Potential Therapeutic Role for MafA through Ectopic Expression in Pancreatic Ducts
2:45 – 3:00 pm Michael Lawrence - Differentiation of Pancreas-Derived Mesenchymal Stem Cells into Hormone-Producing Islet-Like Cell Clusters
3:00 – 3:15 pm John Wiersch - No Evidence for Bone Marrow Derived Stem Cell Contribution to Pancreatic Regeneration in a Mouse Parabiosis Model
3:15 – 3:30 am Gina M. Coudriet – Maturation Defects in NOD Macrophages Impacts Beta Cell Regeneration

3:30 - 4:00 pm Coffe/Tea Break

4:00 – 5:15 pm SESSION-2 – Modes and Maladies of Gene Regulation in Islets
(Moderator: Raghu Mirmira)

4:00 – 4:15 pm Brian McKenna - Identification and Characterization of Pdx1 Coregulators
4:15 – 4:30 pm Justin S. Johnson - Pancreatic and Duodenal Homeobox Protein 1 Enhances Transcription of Sarcoplasmic Reticulum Calcium ATPase 2 in the Beta Cell
4:30 – 4:45 pm Chad S. Hunter - Ldb1-mediated transcriptional complexes during β-cell development and function
4:45 – 5:00 pm KyungHee Hong - IL-1beta Regulates Beta-cell TXNIP Expression
5:00 – 5:15 pm Caitlin Orr - Identification of Tissue Specific Enhancer Elements in the Pancreatic Alpha Cell

5:15 – 6:00 pm Break

6:00 – 7:30 pm Dinner

7:30 – 9:30 pm POSTER SESSION and SOCIAL

Thursday, May 22, 2014

8:00 – 9:00 am Breakfast

9:00 - 10:15 am SESSION-3 – Islet Factors, Functions and Metabolic Signals
(Moderator: Roland Stein)
9:00 – 9:15 am Amelia K. Linnemann - Cholecystokinin is Directly Regulated by cAMP in Beta Cells
9:15 – 9:30 am Matthew J. Merrins - Phase Analysis of the Beta Cell Triggering Pathway Reveals Unexpected Feedback on Oscillatory Metabolism
9:30 – 9:45 am Kayla A. Boortz - G6PC2 Evolved to Modulate Insulin Secretion in Response to Stress
9:45 – 10:00 am Weiwei Xu - Androgen Receptor-Dependent Transcriptome Analysis in Pancreatic Beta Cells: Implications for Type 2 Diabetes Risk in Aging Men
10:00 – 10:15 am Ben A. Hall - Insulin-resistance and Decreased Beta-cell Mass in Beta-cell-specific IRS-2 Knockout Mice

10:15 - 10:45 am Coffee Break

10:45 – 12:00 pm SESSION-4 – Oxidative and Inflammatory Stressing on Islets
(Moderator: John Corbett)

10:45 – 11:00 am Ashley R. Burg - Superoxide Deficiency Hinders Anti-Viral Responses of Non-Obese Diabetic Macrophages during Diabetogenic Coxsackie B4 Virus Infection
11:00 – 11:15 am Katarzyna Broniowska - Location, Location, Location! It Is a Key Determinant in the Biological Actions of Free Radicals on Beta Cells
11:15 – 11:30 am Ting Zhang - FoxO1 Protects Beta-Cell against Oxidative Stress
11:30 – 11:45 am Bryndon J. Oleson - DNA Damage-Mediated Activation of ATM as a Trigger for Cytokine-Induced Apoptosis
11:45 – 12:00 pm Emily K. Anderson-Baucum - The Role of Macrophage Deoxyhypusine Synthase in the Progression of Obesity-Associated Metabolic Inflammation

12:00 - 1:30 pm Lunch

1:30 – 2:45 pm SESSION-5 – Potential Means of Fixing Type-1 Diabetes
(Moderator: Les Satin)

1:30 – 1:45 pm Zunaira Z. Chaudhry - The Proinsulin/C-peptide Ratio and HSP90: Potential Biomarkers for Early Detection of Type 1 Diabetes
1:45 – 2:00 pm J. Stewart New - Modulation of Autoimmune Diabetes By Innate-Like B Cell Derived Antibodies Against N-Acetyl Glucosamine
2:00 – 2:15 pm Robert N. Bone - Fluoroketone-based Inhibition of the Ca2+-independent PhospholipaseA2beta in Neonates Reduces Incidence of Type 1 Diabetes
2:15 – 2:30 pm Lindsey E. Padgett - NADPH Oxidase-Deficient Macrophages Display a Dampened M1 Macrophage Phenotype in Type 1 Diabetes
2:30 – 2:45 pm Stephen Harrington - Allogeneic Islet Transplantation by Encapsulation in Bio-inspired Hydrogel: the Importance of Scaffold Geometry

2:45 - 3:15 pm Coffee/Tea Break

3:15 – 4:30 pm SESSION-6 – Pathogenesis and Potential Means of Fixing Type-2 Diabetes
(Moderator: Colin Nichols)

3:15 – 3:30 pm Mieke Baan - FoxM1 Overexpression in Pancreatic Beta Cells Increases Pancreatic Insulin Content and Lowers Plasma Glucose
3:30 – 3:45 pm Gu Jing - TXNIP induces IAPP expression via miRNA-124a and FOXA2
3:45 – 4:00 pm Damien Demozay - Ablation of FoxO3a, but not FoxO1, specifically in beta-cells causes beta-cells failure in mice exposed to a high calorie diet

4:00 – 4:15 pm Holly A. Cyphert - Characterization of Human MafA/B Activity in Pancreatic Beta Cells

4:15 – 4:30 pm Johanne H. Ellenbroek - Long-term Ketogenic Diet Causes Glucose Intolerance and Reduced Beta and Alpha-Cell Mass but No Weight Loss in Mice

4:30 - 4:45 pm Break

4:45 – 5:45 PM SESSION-7 – THE 7th ANNUAL LACY MEDAL LECTURE
(Moderator: CHRISTOPHER RHODES)

Geoffrey G. W. Sharp, Ph.D. (Cornell University) – ‘From the Artic to Bangladesh to the Islet’

6:00 - 8:00 pm Awards Banquet

8:00- 10:00 pm Poster Mingling and Entertainment

Friday, May 24, 2013

9:00 am – 12:00 pm Departures
**POSTER PRESENTATIONS**  
– Wednesday May 21st & 22nd 2014 –

## ISLET DEVELOPMENT & DIFFERENTIATION

**Poster 01** - Iljana Gaffar - Complementary Roles for Glucagon Receptor and GLP-1 Receptor Signaling in Insulin Cell Differentiation.

**Poster 02** - John Wiersch - Alpha Cell Ablation Leads to Delayed Beta Cell Development in Embryonic Mice.

**Poster 03** - Fong Cheng Pan - Mnx1 as a critical determinant in beta/delta fate selection during endocrine lineage diversification and beta cell differentiation.

**Poster 04** - Anna B. Osipovich - Insml Promotes Endocrine Cell Differentiation by Modulating Expression of a Network of Genes That Includes Neurog3 and Ripply3.

**Poster 05** - Pavana Rotti - 3D Differentiation of human induced pluripotent stem cells generates functional insulin producing cells in vitro.

## ISLET ß-CELL GROWTH, REGENERATION & REPROGRAMMING

**Poster 06** - Angela Criscimanna - Differentially Activated Macrophages Create Lineage-Specific Microenvironments for Pancreatic Regeneration in Mice.

**Poster 07** - Audra L. Kauffman - A small molecule kinase inhibitor induces insulin gene expression in pancreatic alpha cells.

**Poster 08** - Maria L. Golson - Activated FoxM1 enhances insulin secretion and beta cell survival in young mice while increasing beta cell proliferation in aged mice.

**Poster 09** - Nathaniel J. Hart - Islet Cell Composition, Proliferation and Mass in the Human Juvenile Pancreas.

**Poster 10** - Raymond C. Pasek - Connective Tissue Growth Factor Promotes Beta Cell Proliferation During Pregnancy.


**Poster 12** - Yanqing Zhang - Pax4 Induced Alpha-to-beta Cell Phenotypic Change.

**Poster 13** - Hannah N. Worche - The Outcome of Pdx1/Ngn3/MafA Reprogramming of Acinar Cells Varies Greatly Depending on Specific Experimental Conditions.

**Poster 14** - Kristie L. Aamodt - Signals Derived From The Islet Microenvironment Modulated By Vascular Endothelial Growth Factor-A Promote Beta Cell Proliferation.

## ISLET TRANSCRIPTING & TRANSCRIPTION FACTORS

**Poster 15** - Junqin Chen - Thioredoxin-Interacting Protein Self-Induction: Role of ChREBP and AMP-Kinase.

**Poster 16** - Jason M. Spaeth - FoxP1/2/4 Transcription Factors Are Required For Endocrine Alpha- and Beta-cell Proliferation and Function

**Poster 17** - David Scoville - Identification of New Co-regulatory Partners of the MafA Transcription Factor
METABOLISM, SECONDARY SIGNALS & SECRETION

Poster 18 - Mark Perelis - Clock Silencing in Adulthood Impairs Rhythmic Insulin Release and Repograms Protein Secretion Transcription Networks.
Poster 19 - Anton E. Ludvik - A possible role of HKDC1 in maternal glucose homeostasis.
Poster 20 - Medha Priyadarshini - Potential Role of FFAR3 in Pancreatic Beta Cell Function.
Poster 22 - Scott A. Soleimanpour - The diabetes susceptibility gene Clec16a regulates mitophagy.
Poster 23 - Latha Ramalingam - Doc2b serves as a scaffolding platform for concurrent binding of multiple Munc18 proteins.

ISLET ION CHANNELS

Poster 25 - Nicholas Vierra - The C-Terminus of TALK-1 is a Charge-Sensitive Module Critical for Regulation of Channel Activity.
Poster 26 - Kristen E. Syring - In the Absence of ZnT7, Deletion of ZnT8 Impairs Glucose Tolerance.
Poster 27 - Xin Tong - Beta Cell SERCA2b Protein Stability Is Regulated via NO- and AMPK-Dependent Pathways under Inflammatory Diabetic Conditions.
Poster 28 - Evan P.S. Pratt - Disruption of Ca2+-Induced Ca2+ Release and Glucose-Stimulated ERK1/2 Activation in INS-1 Cells Expressing the Ca2+II-III Loop.
Poster 29 - Jennifer S. Stancill - Exploring beta-cell excitotoxicity as a cause for Type 2 Diabetes.

ISLET STRESS & SURVIVAL

Poster 30 - Guanlan Xu - TXNIP-Induced microRNA-204 Inhibits Beta Cell Function.
Poster 31 - Stephen Filios - miR-200b Increases Beta Cell Apoptosis and is Induced by TXNIP.
Poster 32 - Leena Haataja - Successful and Unsuccessful Folding in the Oxidation of Proinsulin.
Poster 33 - Daleep Arora - Identification of small molecules that protect pancreatic beta cells against ER stress induced cell death.
Poster 34 - Lance Thielen - Oxidative Stress Cannot Mimic TXNIP-Induced microRNA Expression in INS-1 Beta-Cells.
Poster 35 - Carly Kibbe - Cholecystokinin Protects Pancreatic Beta Cells From Stress-Induced Apoptosis.
Poster 36 - Wataru Yamamoto - SERCA2b Overexpression Improves Beta Cell Survival Under Inflammatory and ER Stress Conditions.
Poster 37 - Justin Bushkofsky - Tcf19 is a Novel Islet Factor Involved in Proliferation and Atf6 Mediated Endoplasmic Reticulum Stress.
ALPHA-CELLS & GLUCAGON SECRETION

Poster 38 - David Jacobson - Two-Pore-Domain TASK-1 Potassium Channels Modulate Pancreatic Islet Glucagon Secretion.
Poster 39 - E. Danielle Dean - Hepatic-Derived Factor Stimulates Human Alpha Cell Proliferation.
Poster 40 - Camille Allard - Estrogen Suppresses Glucagon Secretion In Diabetic Mice And Cultured Islets.
Poster 41 - Mingyu Li - Modeling alpha cell hyperplasia to search for the liver-derived inducer in zebrafish.

TYPE-1 DIABETES PATHOGENESIS & TREATMENT

Poster 43 - Zachary R. Shaheen - mTORC1 Regulates Macrophage Activation during Infection with the Diabetogenic Encephalomyocarditis Virus.
Poster 44 - Yong Wang - Preconditioning with Diaxoxide Reduces Ischemic Injury to Non-Human Primate Islets.
Poster 45 - Angela M. Henschel - Biobreeding (BB) Rat Islets Exhibit Underlying Dysfunction that Is Ameliorated by a Hydrolyzed Casein Diet.
Poster 46 - Ivan Restrepo-Angulo - Effect of IL-12/23(p40) Inhibition on Diabetes Outcomes in Non-Obese Diabetic Mice
Poster 47 - Emily Sims - Beta Cell Derived miR-21 as an Intrinsic Protective Response and Biomarker in Type 1 Diabetes Mellitus.

TYPE-2 DIABETES PATHOGENESIS

Poster 48 - Brandon B. Boland - The Cell Biology of the Adaptive Plasticity for Insulin Production in Pancreatic Beta-Cells from Obese Diabetic Mice.
Poster 49 - Miles H. Fuller - Genetic Deletion of the Short Chain Fatty Acid Receptor, FFAR2, leads to Impaired Gestational Glucose Homeostasis.
Poster 50 - Genevieve E. Fava - The Progression of Intra-Islet GLP-1 Expression Differs in Mouse Models of Type 1 versus Type 2 Diabetes.
Poster 51 - Stephanie M. Yoder - PAK1 Knockout Mice Harbor an Increased Susceptibility to Diet-Induced Diabetes

NOVEL ISLET METHODOLOGIES

Poster 53 - Ping Guo - Adeno-associated virus-mediated cre-lox targeting of the adult mouse pancreas through intra-pancreatic ductal injections.
Poster 55 - Yong Wang - Development of A Microfluidic-based Array for High-Resolution and High-Content Imaging of Islets.
Poster 56 - Cynthia M. Cipolla - Validation of LC-MS Metabolomics Method in Whole Islets and Application to Studies of Gluco/Lipotoxicity.
Poster 57 - Diana Gutierrez - Development and Optimization of a Microfluidic-based Multi-Parametric Assay for Evaluating Human Islet function prior to Transplantation.
Poster 58 - Sonia Rawal - Multi-donor reaggregated 3D islets for drug testing.
Poster 59 - Patrick Gillespie - High Content Screening And Analysis Of Beta Cell Function.
Poster 60 - Maria L. Golson - Automated Quantification of Pancreatic Beta Cell Mass.